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NOTES ON GEOGRAPHIC DISTRIBUTION

Noteworthy records of the birds *Neomorphus radiolosus* Sclater and Salvin, 1878 (Cuculiformes: Cuculidae), *Geotrygon frenata* (Tschudi, 1843) (Columbiformes: Columbidae) and *Odontophorus hyperythrus* Gould, 1858 (Galliformes: Odontophoridae) in the Western Cordillera of the Colombian Andes

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ABSTRACT: We recorded the Banded Ground-cuckoo (*Neomorphus radiolosus*), White-throated Quail-Dove (*Geotrygon frenata*) and Chestnut Wood-Quail (*Odontophorus hyperythrus*) in the Pacific Slope of the Western Andes of Colombia. Records of *N. radiolosus* extend its geographic distribution 130 km north of its known range. The species had probably not been recorded yet because of its rarity and the absence of studies. Records of *G. frenata* and *O. hyperythrus* extend their lower altitudinal limit into 430 m and 1140 m, respectively. Camera trapping appears as promising tool for recording data of the distribution of bird species.

The Pacific slope of the Western Cordillera of the Colombian Andes, Chocó Ecoregion (Olson et al. 2001), has a remarkably high diversity of birds (Hilty and Brown 2001). The importance of this region from a biogeographical and conservation perspective stems from the fact it is home to several endemic, rare and endangered birds (Chapman 1917; Hilty and Brown 2001; Renjifo *et al*. 2002). Unfortunately, there are many unexplored areas within it that create gaps in the distribution of species, hampering an adequate understanding of sub-regional diversity patterns. Recent publications have shown noteworthy data about the occurrence of birds in the ecoregion (i.e. Cuervo *et al*. 2003; Echeverri-Gálvis and Córdoba-Córdoba 2007), but elevations between 300 to 2500 m remain less explored.

An important block of forest in the Chocó Ecoregion of Colombia can be found in the AME Alto Amurrupá (Área de Manejo Especial Étnico del Alto Amurrupá), Corregimiento de Santa Cecilia, Municipio de Pueblo Rico, Departamento de Risaralda, Colombia (Figure 1). The AME is adjacent to the Tatamá Natural National Park (NNP) and the IBA Alto de Pisones. The site is in the San Juan River watershed where the Amurrupá, Mumburutó, Oscordó and Lloraudó Rivers drain into the San Juan River. It encompasses more or less 4,800 hectares of wet tropical, very wet premontane and pluvial premontane forests. The mean rainfall is 6,130 mm/year and average temperature is between 24-26°C. Afro-Colombian and indigenous communities practice agriculture and livestock in the buffer zone of the protected area (Sánchez-Barrera *et al.* 2012).

We developed a terrestrial mammal survey with the participation of the community, employing 41 camera traps (RECONYX RM54 and HC500) along three transects that covered elevations between 430 and 1760 m. Camera traps were active between 20 August and 05 November 2011, completing 3,321 camera-trap/nights. We obtained 48 photo-capture events of 18 individuals of three bird species: Banded Ground-cuckoo (*Neomorphus radiolosus* Sclater and Salvin, 1878), White-throated Quail-Dove (*Geotrygon frenata* (Tschudi, 1843)) and Chestnut Wood-Quail (*Odontophorus hyperythrus* Gould, 1858). These records extend the known distributional range of the three species. Record details are present below:

Banded Ground-Cuckoo – During three visits of single individuals of the Banded ground-cuckoo to two camera trap stations we obtained seven images (Figure 2, Table 1). These photo-captures were obtained during daylight hours (08:00-16:30 hours). The fact that the photo-captures for this species were restricted to a small, specific area within the total area sampled support the assumption of low abundances and small territories in the species (Karubian and Carrasco 2008).

The Banded Ground-cuckoo is a rare, endemic and poorly known bird restricted to humid primary forests of the Chocó Ecoregion (BirdLife International and Natureserve 2011), where it has small and fragmented populations (BirdLife International 2009a) in Colombia and Ecuador (Hilty and Brown 2001; López-Lanús *et al.*1999; Karubian *et al.* 2007; Ayerbe-Quiñones *et al*. 2008; Calderón-Leyton *et al*. 2011). It is classified as globally

Endangered (EN) (BirdLife International 2009a, BirdLife International and Natureserve 2011) and Vulnerable (VU) in Colombia (Renjifo *et al.* 2002, Strewe 2002), due mainly to habitat loss to deforestation.

Neomorphus radiolosus has been recorded in some protected areas of Colombia including Munchique NNP, Río Ñambí and El Pangan Nature Reserves (BirdLife International 2009a). Although its geographic range has been described as extending throughout the Western versant of the Western Cordillera of Colombia, actual records are limited to the southern portion of the Ecoregion (Nariño, Cauca and Valle del Cauca) and mainly at elevation ranges of 700 – 1200 m (Hilty and Brown 2001; Ayerbe-Quiñones *et al*. 2008; Calderón-Leyton *et al.* 2011). López-

Table 1. Photocapture records of birds in the AME Alto Amurrupá, Risaralda, Colombia.

SPECIES	LATITUDE	LONGITUDE	ELEVATION (M)	DATE	TIME	NO. PHOTOS	NO. INDIVIDUALS
Neomorphus radiolosus	5°19'35.62"	-77°51'28.5"	460	14-Sep-11	16:28	3	1
	5°19'32.3"	-77°51'28.21"	460	15-Sep-11	15:10	2	1
	5°19'40.7"	-77°51'27.11"	430	30-Sep-11	08:34	2	1
Odontophorus hyperythrus	5°18'23.71"	-77°50'5.23"	1137	30-Ago-11	11:14	6	3
	5°18'23.71"	-77°50'5.23"	1137	16-Sep-11	10:19	3	2
	5°18'19.35"	-77°50'6.05"	1348	20-Sep-11	09:16	3	2
	5°17'35.26"	-77°50'8.07"	1664	12-Oct-11	08:44	3	3
	5°17'32.71"	-77°50'1.73"	1682	18-Oct-11	17:25	3	2
	5°18'23.71"	-77°50'5.23"	1137	20-Oct-11	10:23	2	2
	5°17'35.2"	-77°49'58.82"	1386	01-Nov-11	06:36	3	3
	5°18'40.54"	-77°49'54.55"	1137	02-Nov-11	06:32	1	1
	5°17'24.49"	-77°49'52.66"	1764	03-Nov-11	16:28	4	1
	5°18'40.54"	-77°49'54.55"	1137	04-Nov-11	08:04	3	1
Geotrygon frenata	5°18'20.4"	-77°50'20.59"	1408	19-Sep-11	12:53	3	1
	5°19'35.62"	-77°51'28.5"	460	29-Sep-11	12:42	2	1
	5°17'32.71"	-77°50'1.73"	1682	19-Oct-11	08:32	3	1
	5°18'44.11"	-77°49'52.91"	1103	22-Oct-11	17:10	1	1
	5°19'40.7"	-77°51'27.11"	430	27-Oct-11	07:45	1	1

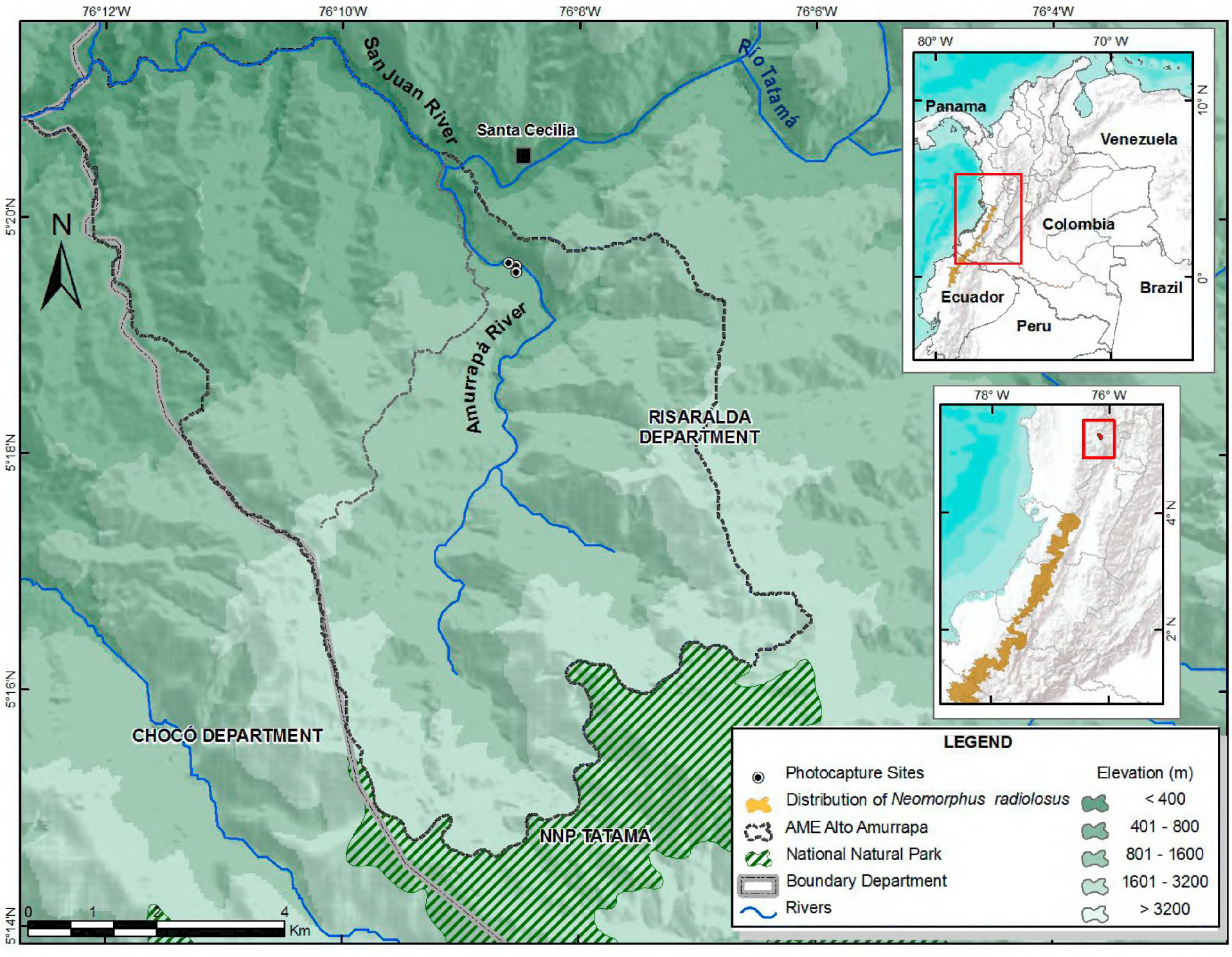

Figure 1. The AME Alto Amurrupa location, distribution range and photocapture sites of Banded Ground-cuckoo (*Neomorphus radiolosus*). The distribution range was obtained from BirdLife International and Natureserve (2011).

Ordóñez *et al.* (2013) extend the species occurrence to the north from the bajo Anchicayá, Valle del Cauca. Our records extend the species occurrence over 130 km to the north of its known range and lower its altitudinal range by 430 m (Figure 1).

This cuckoo had been reported foraging near Peccaries (*Pecari tajacu*) suggesting an association with those ungulates (Hity and Brown 2001, López-Lanús *et al.* 1999, BirdLife International 2009a). In AME Amurrupá, it was photo-captured in areas inhabited by the Spotted Paca (*Cuniculus paca* (Linnaeus, 1766)), South American Coati (*Nasua nasua* (Linnaeus, 1766)), Nine-banded Armadillo (*Dasypus novemcinctus* (Linnaeus, 1758)) and Common Opossum *(Didelphis marsupialis* Linnaeus, 1758). These observations suggest that it is not restricted to peccary's tracks and could be using tracks of different terrestrial mammals. Moreover, locals commented that Peccaries are also present in the protected area.

White-throated Quail-Dove – Seven images of the White-throated Quail-Dove were obtained during five visits of single individuals to four camera traps stations located between 430 and 1680 m (Figure 3, Table 1). The photo-captures were taken during morning hours (08:00-13:00 hours). This widely distributed (Argentina, Bolivia, Ecuador, Peru and Colombia), but uncommon dove inhabits subtropical and tropical lowland moist forest (BirdLife International 2009b). Records from Colombia had been obtained between 900 and 2500 m near to the Tatamá PNN, and records at 3,300 m in Central Andes (Hilty and Brown 2001; McMullan *et al.* 2010). The lowest elevation at which the species has been recorded (900 m) corresponds to a visual encounter in Anchicayá, Western Andes, Departamento of Valle del Cauca (Hilty and Brown 2001). Our records based on images of individuals walking in the forest permit to propose 430 m as inferior limit of its distribution in Western Andes of Colombia.

Chestnut Wood-Quail –We obtained 31 images of Chestnut Wood-Quail during ten visits of individuals to six camera-traps stations. Records occurred between 06:30-17:25 hours and visits had a mean of 2.1 individuals (Figure 3, Table 1).This species occurs on both slopes of the Central and Western Cordilleras of the Colombian Andes, at 1400–2700 m (Salaman 1994; Hilty and Brown 2001; McMullan *et al.* 2010). It is categorized as Near Threatened (Renjifo *et al.* 2002; BirdLife International 2008) due to habitat loss and hunting. Our records set 1,130 m as a new inferior elevation limit of its distribution in Western Andes of Colombia.

The three species recorded here could be part of isolated populations, thus additional surveys are required to study their ecology, distribution and conservation status. Data obtained during this study support the idea that camera traps are a promising element to record the occurrence of birds (i.e. Sáenz-Méndez *et al.* 2005) and to motivate the participation of communities in ecological studies.

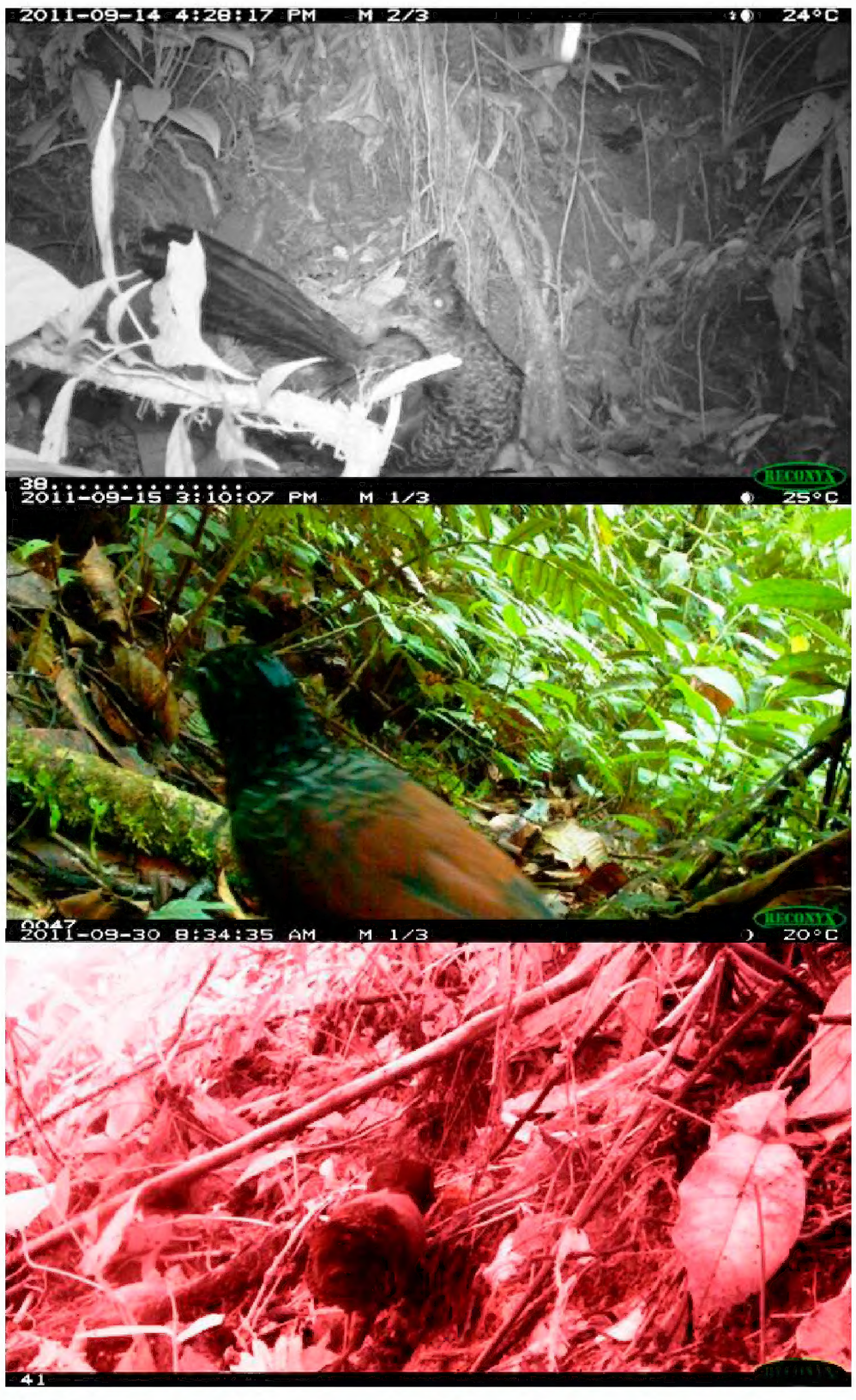

Figure 2. Banded Ground-cuckoos (*Neomorphus radiolosus*) photocaptured in of the AME Alto Amurrupa, Western Cordillera of the Colombian Andes.

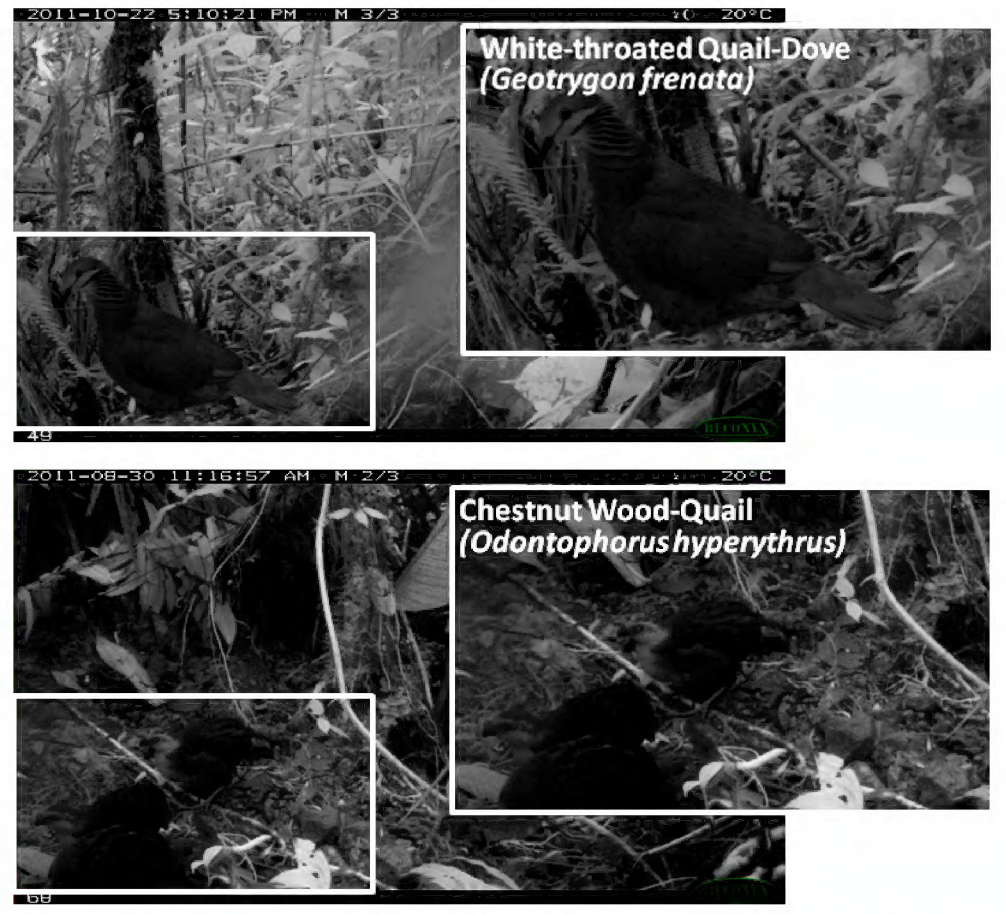

Figure 3. White-throated Quail-Dove (*Geotrygon frenata*) and Chestnut Wood-Quail (*Odontophorus hyperythrus*) photocaptured in of the AME Alto Amurrupa, Western Cordillera of the Colombian Andes.

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